

Abstract

ABSENCE OF TOXICITY OF FLUBENDAZOLE ADMINISTERED AS AN ORAL SOLUBLE FORM IN SOWS DURING MATING, PREGNANCY AND LACTATION

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Introduction

Solubeno[®] 100 mg/g Oral Emulsion (Janssen Pharmaceutica) is a veterinary medicinal product used as an anthelmintic in pigs. It contains 100 mg flubendazole per ml. The dose recommended in pigs is 1 mg flubendazole/kg bw for 5 consecutive days, i.e. 1 ml/100 kg bw per day for five consecutive days. The product is administered in the drinking water. The current Summary of Product Characteristics (SPC) states that the product should not be used during pregnancy and lactation in sows. However, no embryotoxic, foetotoxic or teratogenic effects were reported in the literature for flubendazole in laboratory, companion or food animals. The aim of this study was to evaluate the risk inherent to the use of Solubeno[®] 100 mg/g Oral Emulsion in sows when the product is administered during the mating period, gestation and lactation.

Material and methods

Intact, reproductively-sound sows were included in the study. Ten sows were included in the treated group. Five additional sows were used as untreated controls. The test product Solubeno[®] 100 mg/g oral emulsion was supplied individually for at most 2 hours (pulse dose) as 3 mg of flubendazole per kg body weight once daily (= 3 times the recommended dosage), for 5 consecutive days. The animals received this treatment 6 times (7 times in two animals that required double insemination): first treatment prior to insemination, four (or five) treatments throughout the gestational period (embryonic phase, foetal phase, natal phase), last treatment during lactation.

This reproductive safety study thus evaluated:

- mating, conception rates, length of gestation, parturition and lactation.
- in the offspring from treated females, developmental toxicology (including teratogenicity, foetotoxicity), foetal development, number of offspring, viability and growth, health and development to weaning.

Results

One treated sow gave birth to only two piglets, which were normal and alive until weaning. Such an event occurs in 2% of sows in normal conditions and the sow was thus left in the study but excluded from the statistical analysis. No abnormalities were observed, nor any treatment-related changes in the health condition of the sows and piglets. The statistical analyses performed showed that:

- (i) the two groups were comparable before treatment initiation. Similar (i.e. statistically similar, $p > 0.05$) values were obtained for all parameters before sow inclusion: age, weight, number of litters, average number of piglets per litter.
- (ii) no treatment-related clinical signs were observed in any sows included in the study
- (iii) the number of newborn piglets was similar in the treated and control sows
- (iv) the number of weaned piglets per sow was similar in the treated and control groups
- (v) no physical abnormalities were observed in the newborns from sows treated with the test item

Conclusion

It may be stated that Solubeno[®] 100 mg/ml oral emulsion had no adverse effects in sows or their offspring when administered at three fold the recommended dose before conception, during gestation (embryonic and foetal stages) and during lactation.